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# Future Electricity Sector Utility Ownership & Regulation in Hawaii

*Draft Preliminary Results*

**Kauai County**

Prepared for Hawaii Department of Business, Economic Development,  
and Tourism (“DBEDT”)

## Disclaimer notice

- ▶ **London Economics International LLC (“LEI”) was engaged by the Department of Business Economic Development and Tourism to look at various ownership and regulatory models for the State of Hawaii (also referred to herein as the “Project” ). LEI has made the qualifications noted below with respect to the information contained in this preliminary presentation and the circumstances under which the presentation was prepared.**
  
- ▶ **While LEI has taken all reasonable care to ensure that its analysis is complete, power markets are highly dynamic, and thus certain recent developments may or may not be included in LEI’s analysis. Stakeholders should note that:**
  - LEI’s analysis is not intended to be a complete and exhaustive analysis of the Project. All possible factors of importance to a stakeholder have not necessarily been considered. The provision of an analysis by LEI does not obviate the need for the stakeholders to make further appropriate inquiries as to the accuracy of the information included therein, and to undertake their own analysis and due diligence.
  - No results provided or opinions given in LEI’s analysis should be taken as a promise or guarantee as to the occurrence of any future events.
  - There can be substantial variation between assumptions and market outcomes analyzed by various consulting organizations specializing in power markets. LEI does not make any representation or warranty as to the consistency of LEI’s analysis with that of other parties.

The primary goals of today's outreach are to provide preliminary results and obtain final feedback from stakeholders

**1** Provide an overview of analyses performed for the Study



**2** Share insights on the preliminary results of the Study



**3** Solicit stakeholders' input for the final report



# Agenda

1

About the study

2

Ownership models

3

Regulatory models

4

Summary of preliminary findings

5

Discussions

# DBEDT is directed by the legislation to:

## Assess the ability of each model to:

### Evaluate alternative utility ownership and regulatory models

**Ownership models** include: co-ops, investor-owned utilities, Single Buyer, and integrated distribution energy resources (“IDER”) system operator

**Regulatory models** include status quo with HERA, status quo with lighter PUC regulations, independent system operator, or distribution-focused regulatory model

1

- 1) Achieve **state energy goals**
- 2) Maximize **customer cost savings**
- 3) Enable a **competitive distribution system**
- 4) Eliminate or reduce **conflicts of interest**
- 5) **Align interests**

2



### Conduct a long-term cost benefit analysis

- **Costs** required to change from current model to new model
- **Legal and regulatory approvals** needed for the change
- Impact on **revenue requirements and rates**
- Effects on **distributed energy resources**

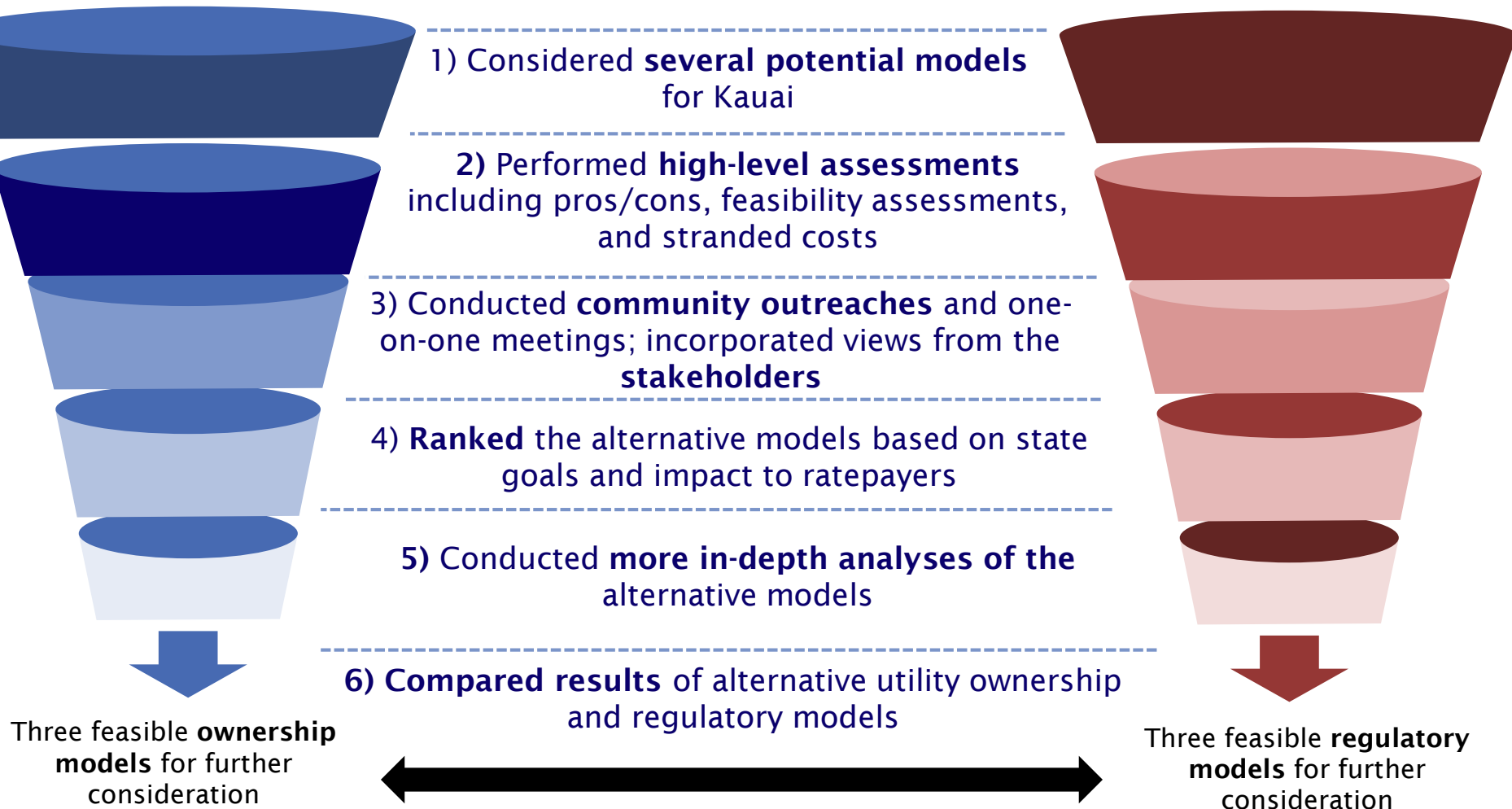
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# The assessment of potential models consists of multiple layers, including various analyses and stakeholder outreaches

## Ownership models

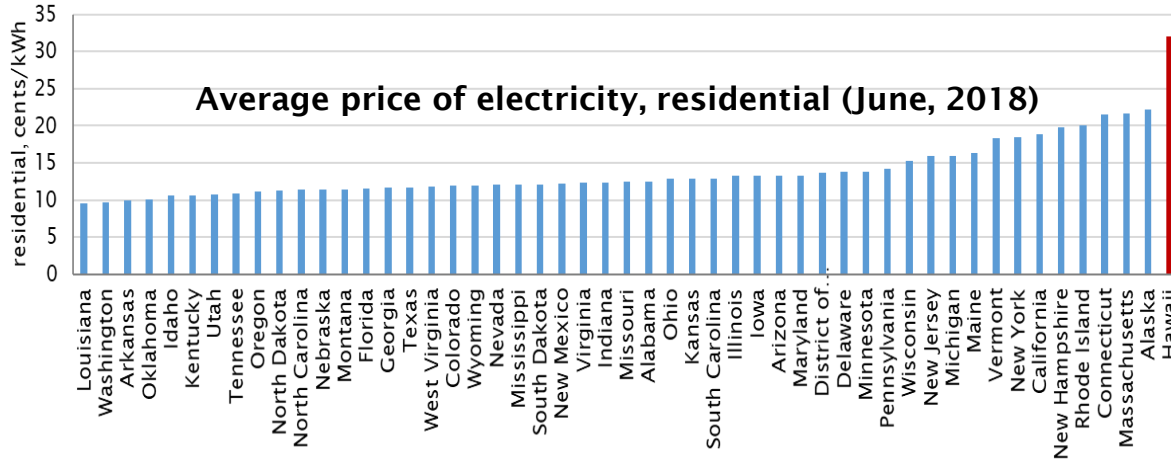
## Key steps taken in the Study

## Regulatory models



# According to the stakeholders, lowering the rates now and in the future is a priority

## Highest electricity prices in the country



Source: EIA. HECO Companies, Third Party Databases

## Other priorities raised by stakeholders (not arranged in any particular order)

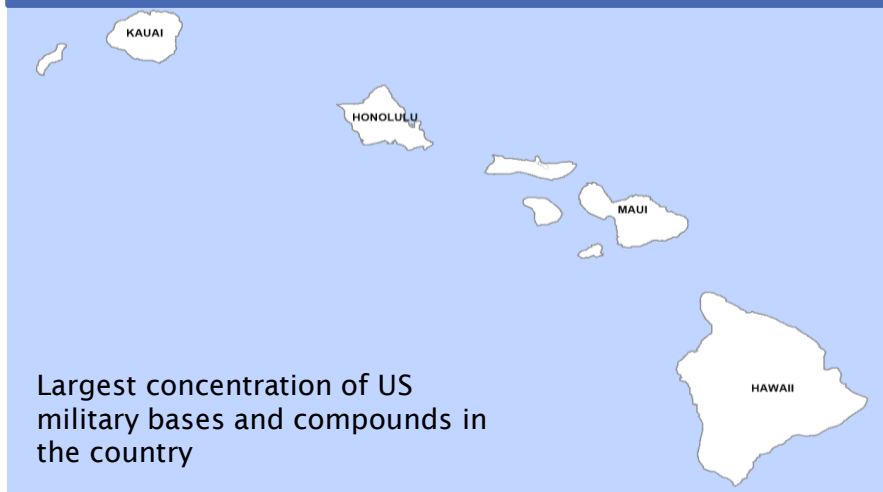
- ▶ Reducing regulatory burden
- ▶ Limited resources to effectively oversee co-op
- ▶ Rate regulation
- ▶ Local control
- ▶ More renewable energy
- ▶ Innovation and adoption of new technologies





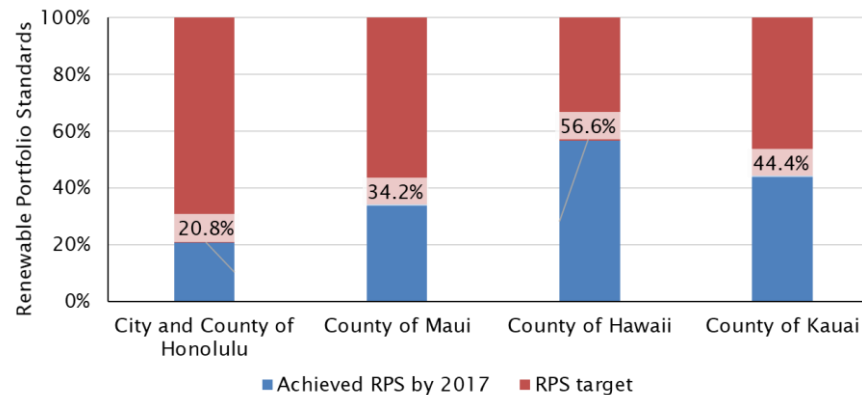
# State's and counties' distinct characteristics are taken into account in the analyses

## Multiple islands



## 100% clean energy goal

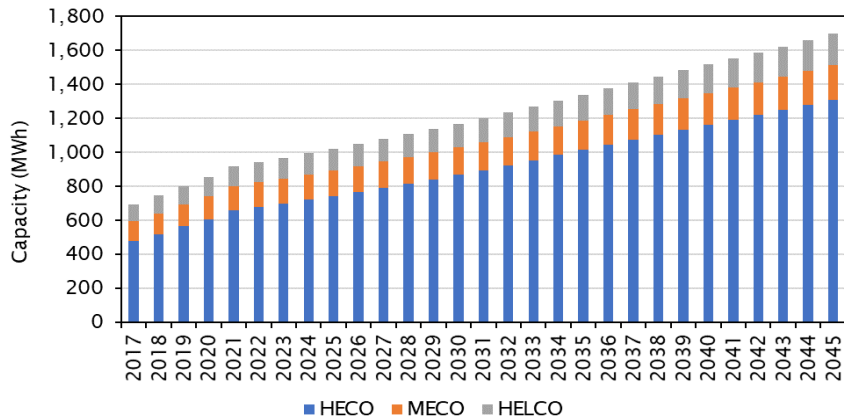
### Achieved RPS vs. 100% RPS target



Source: HECO Companies, KIUC

## Expected high penetration of DERs

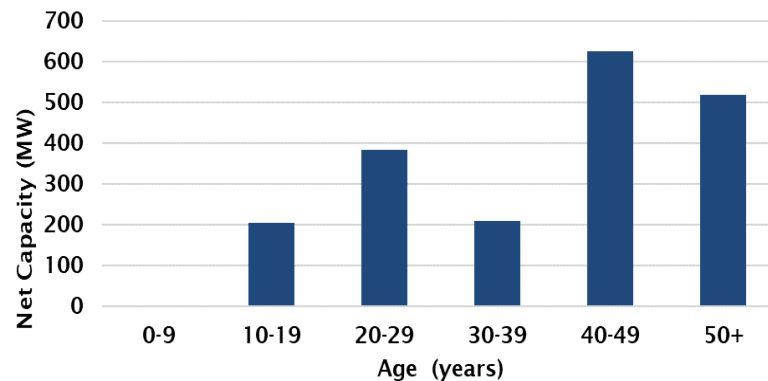
### HECO Companies' forecast cumulative DER capacity



Source: HECO Companies

## Aging generation and transmission assets

### Age of thermal plants as of 2017



Source: HECO Companies, Third-party database provider



# Agenda

1 About the study

**2 Ownership models**

3 Regulatory models

4 Summary of preliminary findings

5 Discussions

# Various utility ownership structures were reviewed ranging from traditional utility-centric models to grid defection

Model	Owner	How does it work?
<b>1) Investor-owned utility (“IOU”)</b>	<ul style="list-style-type: none"> <li>Shareholders (publicly traded or privately held)</li> </ul>	<ul style="list-style-type: none"> <li>Management is <i>appointed by the Board</i>, which has a fiduciary duty to its shareholders</li> <li>Access to capital market to <i>finance large investments</i></li> </ul>
<b>2) New parent</b>	<ul style="list-style-type: none"> <li>Private or not-for-profit</li> </ul>	<ul style="list-style-type: none"> <li>Could be <i>not-for-profit, a limited dividend, or a benefit corporation</i></li> <li>Management is appointed by the Board</li> </ul>
<b>3) Municipal utility (“muni”)</b>	<ul style="list-style-type: none"> <li>Owned by the city or the town</li> </ul>	<ul style="list-style-type: none"> <li>Governed by <i>local elected or appointed officials</i></li> <li>Finance energy improvements with <i>government bonds</i></li> <li>Benefit from access to <i>tax exempt debt financing</i> and they may also be tax exempt</li> </ul>
<b>4) Cooperative (“co-op”)</b>	<ul style="list-style-type: none"> <li>Owned by the members-customers</li> </ul>	<ul style="list-style-type: none"> <li>Management has oversight by its <i>Board</i> and in some cases, from <i>regulators</i></li> <li>have access to low cost debt and <i>special federal financing programs</i></li> </ul>
<b>5) Hybrid (majority government-owned)</b>	<ul style="list-style-type: none"> <li>Owned majority by the <i>government</i></li> </ul>	<ul style="list-style-type: none"> <li>Management is appointed by the <i>Board</i></li> </ul>
<b>6) Integrated distribution energy resources (“IDER”)</b>	<ul style="list-style-type: none"> <li><i>Utility</i> (wires assets)</li> </ul>	<ul style="list-style-type: none"> <li>Coordinating flows across the grid can either be done by the utility or another entity</li> </ul>
<b>7) Single Buyer (“SB”)</b>	<ul style="list-style-type: none"> <li>Utility or independent, not-for-profit entity</li> </ul>	<ul style="list-style-type: none"> <li>SB within the utility is still owned by the utility but have stricter <i>ring-fencing mechanisms from other businesses</i></li> <li>SB could also be outside the utility</li> </ul>
<b>8) Grid defection</b>	<ul style="list-style-type: none"> <li>Diverse (generation)</li> <li>Utility (wires)</li> </ul>	<ul style="list-style-type: none"> <li>Utility would still provide services to customers connected to the grid but at a higher costs</li> </ul>



# The “friendliness” of the acquisition plays a significant role in the feasibility of the ownership model

Model	Stranded costs on generation?	Stranded costs on T&D?	Comply with reliability, adequacy, quality of service?	Require separation of some businesses?	Require costs to move to new model?	Require legal or regulatory changes?
1) Co-op					✗	
2) IOU						✗
3) New parent	✗			✗		
4) Muni						
5) Hybrid		✗	✓		✓	
6) IDER						✓
7) Single Buyer	✗			✓		
8) Grid defection		✓	✗	✗	✗	✗

■ Positive   
 ■ Negative   
 ■ Can be positive or negative

# “Ownership change will not entirely address our concerns; there is a need for regulatory changes and strong leadership” - Stakeholders

## IOUs



- **Lack of competition**
- **Misalignment** between utility incentives and community interests or policy priorities

- **Stable**
- **Economies of scale**
- Can attract a **talented workforce**

## Co-ops



- Governed by 3 entities – lender, PUC and the Board
- Could do more to **reduce rates and increase transparency**

- **Direct influence** on the decision-making process; allows for public input
- Access to **low cost financing**
- Democratically controlled
- **Encourages efficient use of resources**

## Munis



- **Politicization**
- Not interested because of **distrust in political leaders** and concerns about them managing a utility
- Issue on ability of government to **operate the utility**

- More **responsive** to community interests
- Community is already **familiar** with the structure

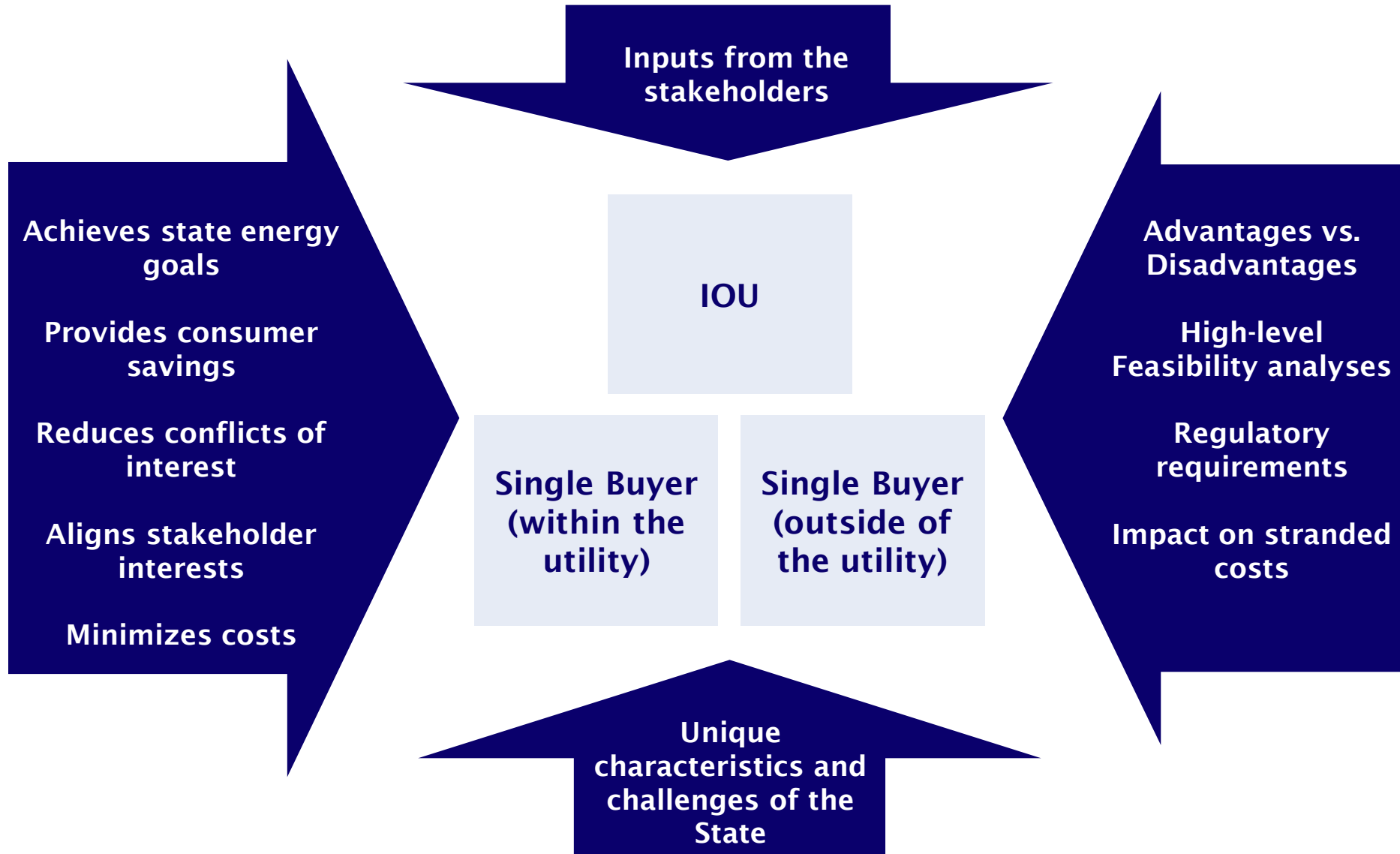
## Wires (IDER and Single Buyer)







- **Complexity and novelty** of the model (IDER)
- **Limited** examples (Single Buyer)

- Ensures **fair procurement process**

# Three alternative ownership models, including IOU and SB (within and outside of the utility), were selected for additional review






# While a transition to IOU ownership would require PUC approval, a SB construct would require changes in law and regulatory structure

Models	 INVESTOR-OWNED UTILITIES <b>Co-op</b>	 RURAL ELECTRIC COOPERATIVES <b>IOU</b>	 <b>Single Buyer (outside of the utility)</b>	 UTILITY <b>Single Buyer (within the utility)</b>
Costs	No costs	<ul style="list-style-type: none"> <li>10% premium paid to current members for their equity stake in the co-op</li> </ul>	<ul style="list-style-type: none"> <li>Setup costs of at least \$3 million (Year One costs), which may be a low estimate of the total establishment cost</li> </ul>	
Timeline	No steps	<ul style="list-style-type: none"> <li>About 24-36 months</li> </ul>	<ul style="list-style-type: none"> <li>24-48 months with significant uncertainty due to the legislative and regulatory processes to establish the single buyer entity</li> </ul>	
Legal changes	No legal changes	<ul style="list-style-type: none"> <li>No changes to regulation are necessary</li> </ul>	<ul style="list-style-type: none"> <li>Require a PUC proceeding</li> <li>Requires legislative action to establish a new entity to undertake the planning and procurement responsibilities of the utility</li> </ul>	

# Any change in ownership model is expected to increase rates on Kauai County

## Kauai

Change of the Ownership Model	Impact on rates*	Average impact**
Move to an IOU model		5.2%
Move to a Single Buyer within the utility model		1.0%
Move to a Single Buyer outside the utility model		0.9%

\* Relative to the Status Quo

\*\* From 2018 to 2045

# Agenda

1

About the study

2

Ownership models

3

**Regulatory models**

4

Summary of preliminary findings

5

Discussions



# Various regulatory models appropriate to the State and are not mutually exclusive were assessed

## HERA Model

- ▶ A **dedicated body** (HERA) would enforce and oversee compliance with formal reliability standards
- ▶ HERA would **support the PUC** in carrying out critical functions related to reliability and grid access oversight functions
- ▶ The PUC may **contract** with a person, business, or organization, (but not a public utility) for the performance of HERA's functions

1

## Distribution System Platform Provider ("DSPP")

- ▶ Distribution utilities are **required to provide a platform for third-party participation** in a distribution system marketplace
- ▶ Utilities still **own and operate** the distribution **system** and become the Distributed System Platform Provider ("DSPP")
- ▶ DSPP is **responsible for planning and designing its distribution system** to be able to integrate DER

3

## Integrated Grid Operator Model ("IGO")

- ▶ An independent entity would be responsible for planning and operations, including the dispatch of both the transmission and distribution system
- ▶ IGO would also **determine the investment requirements** of both transmission and distribution networks
- ▶ Utilities will **continue to own** the wires assets, but the operations would be under the IGO

2

## Lighter PUC regulation

- ▶ The co-ops would be **exempted** from most of PUC's regulations established based on an IOU structure
- ▶ KIUC would continue to be under the regulatory oversight of the **Rural Utilities Service in** terms of planning, financing, and capital investments
- ▶ PUC investigation could be opened following certain events:
  - **Rates increases** exceed the higher of 5% or 2 times the State CPI, and 5x more ratepayers object to PUC
  - When the **capex spent increases** beyond the set threshold
  - If ratepayers provide evidence of **rate discrimination**; and
  - If the customer has **exhausted KIUC internal dispute resolution processes** and continues to feel KIUC has acted contrary to their policies, PUC guidelines, or the State law.

4

# Potential regulatory models are feasible, and some may require additional legislative processes

Model	Result to stranded costs on generation?	Result to stranded costs on T&D?	Comply with reliability, adequacy, quality of service?	Entail the creation of a new entity to do a function of the utility or PUC?	Require costs to move to new model?	Require legal or regulatory changes?
1) HERA	✗	✗	✓	✓	✓	✗
2) IGO	✗	✗	✓	✓	✓	✓
3) DSPP	✗	✗	✓	✓	✓	✓
4) Lighter PUC regulation	✗	✗	✓	✗	✓	✓

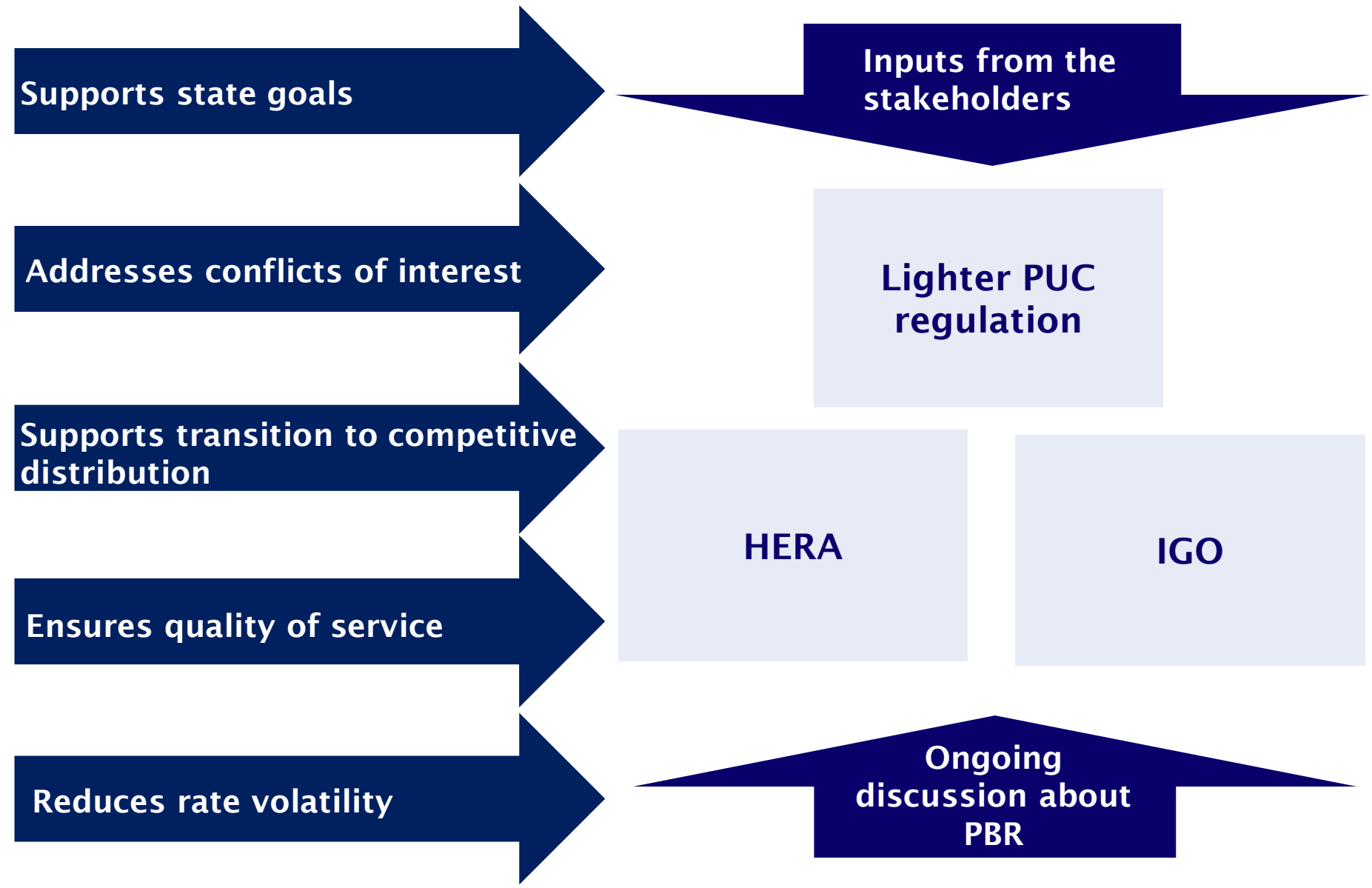
 Positive  
 Negative

# Stakeholders believe that KIUC has demonstrated the ability to manage and operate the utility well

Models	Positive	Negative
<p>1</p> <p>Status quo</p>	<p>👍 provides an <b>additional layer of credibility</b> and <b>increased ratepayer confidence</b></p>	<p>👎 regulatory proceedings should have a <b>pre-established time frame</b> for decisions and/or other actions</p> <p>👎 some of the regulations are more <b>directed to HECO rather than KIUC</b>; PUC needs to take into account co-op regulations to ensure appropriate levels of regulation</p>
<p>2</p> <p>HERA</p>	<p>👍 could <b>result to more grid access</b> and <b>increase deployment of renewables</b></p>	<p>👎 would be <b>redundant</b>, since the PUC already assumes much of the role</p> <p>👎 would not work in the State</p>
<p>3</p> <p>IGO</p>	<p>👍 could increase <b>competition</b></p>	<p>👎 would be <b>too costly to implement</b></p> <p>👎 the <b>market is too small</b> in Hawaii for an ISO to work</p>
<p>4</p> <p>DSPP</p>	<p>👍 a way to increase <b>competition</b> and deployment of DERs</p>	<p>👎 would not work in Hawaii as the <b>cost would be too high</b></p>
<p>5</p> <p>Lighter PUC regulation</p>	<p>👍 PUC regulations are <b>unnecessary</b></p> <p>👍 Hawaii should follow the <b>example on mainland</b> where co-op are not regulated as heavily as IOUs</p> <p>👍 a reduction in regulations would <b>reduce costs</b> for both KIUC and the PUC</p>	<p>👎 could result in the state's <b>inability to ensure co-ops to comply with state policy goals</b></p>






# Analysis on the state criteria showed that combining some of the regulatory models would be more effective in facilitating the achievement of state goals



**Reducing the regulatory requirements for KIUC is likely to provide the greatest cost reductions to ratepayers because the other regulatory models have a smaller impact on overall costs**

## Kauai

Change of the Regulatory Model	Impact on rates*	Average impact**
Move to Lighter PUC Regulation		-0.80%
Establish a HERA model		0.02%
Establish an IGO model		-0.03%

*Relative to the Status Quo*

*\*\* From 2018 to 2045*

# Agenda

1 About the study

2 Ownership models

3 Regulatory models

**4 Summary of preliminary findings**

5 Discussions

## Key conclusions

- ▶ The current ownership and regulatory framework has been *successful* at ensuring utilities *provide reliable service*
- ▶ A change in ownership model *would likely increase electricity rates*
  - Acquisition and transition costs drive the rate increase
- ▶ An IGO would have an *overall neutral impact on rates*, but the complexities of the transition and implementation *may not warrant the change*
- ▶ Lighter PUC regulation would help reduce rates, but there is still a need for a *safety net for consumers*
- ▶ HERA could be a vehicle to *provide arbitration services*, together with establishing *consistent reliability standards* to help the state meet the renewable energy goals

## How to Engage

- ▶ **We encourage you to submit your feedback and input throughout the stakeholder engagement process:**
  - During the event, please fill out your worksheet to the best of your ability during discussion with your colleagues. After this event, we plan to collect your worksheets to gather input for our study.
  - We will also be available for feedback up to an hour after the event if you would like to provide additional comments.
  - You can also submit feedback via the following email:  
[dbedt.utilitybizmodstudy@hawaii.gov](mailto:dbedt.utilitybizmodstudy@hawaii.gov)
  - Finally, the presentation will be available at:  
<https://energy.hawaii.gov/community-outreach>
  
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1

About the study

2

Ownership models

3

Regulatory models

4

Summary of preliminary findings

5

**Discussions**

## Group Discussion

### ► Guiding questions for small groups:

**1. What do you think are the benefits and drawbacks of the preferred models?**

**2. Any other comments or concerns?**